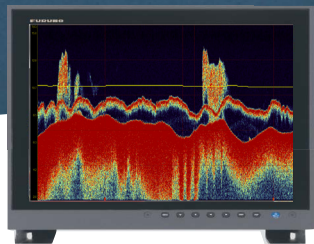
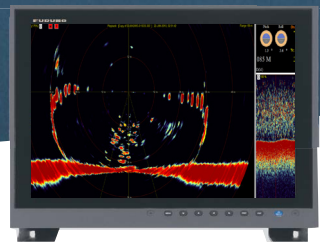


**FURUNO NORGE**

**Furuno sees...**



**...what you don't**



Double display solution

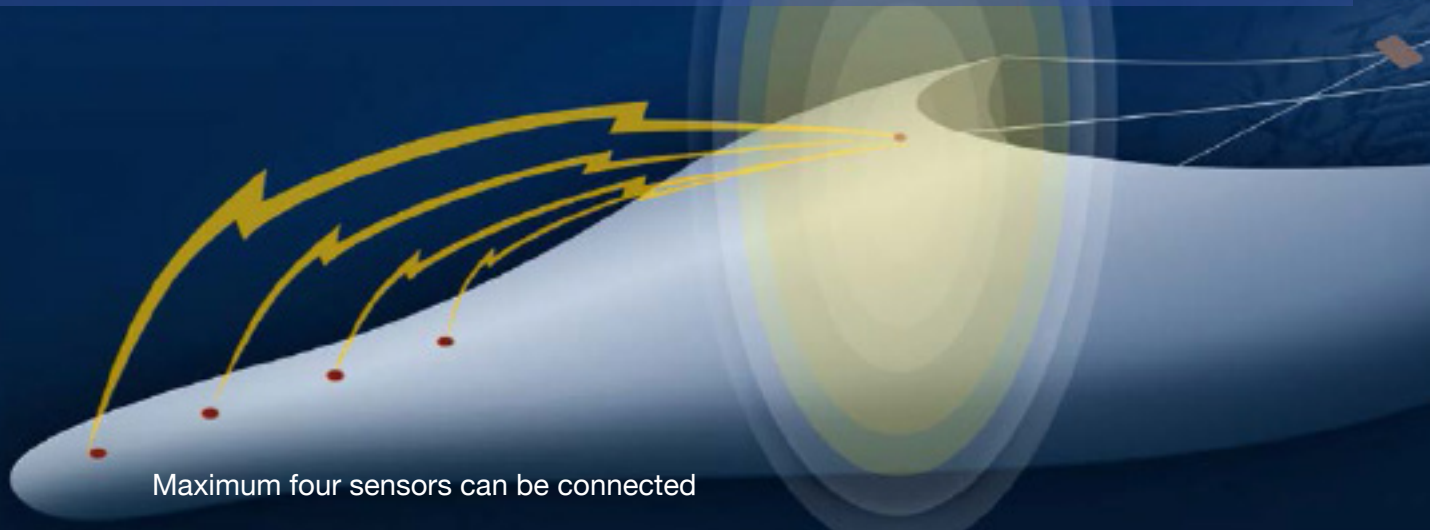
## **360° wired trawl sonar** **Next level of catch control**

TS-337A is the world's first real time 360 degree trawl sonar with updates every 0,8 sec. Now with option for double display solution and rapid down-sounding, with depth and temp info.

## The key to successful fishing!

In order to find fish, sonar and echosounder are two fundamental equipments in the fishing industry, when the trawlsonar is one of the most important component for a successful fishing!

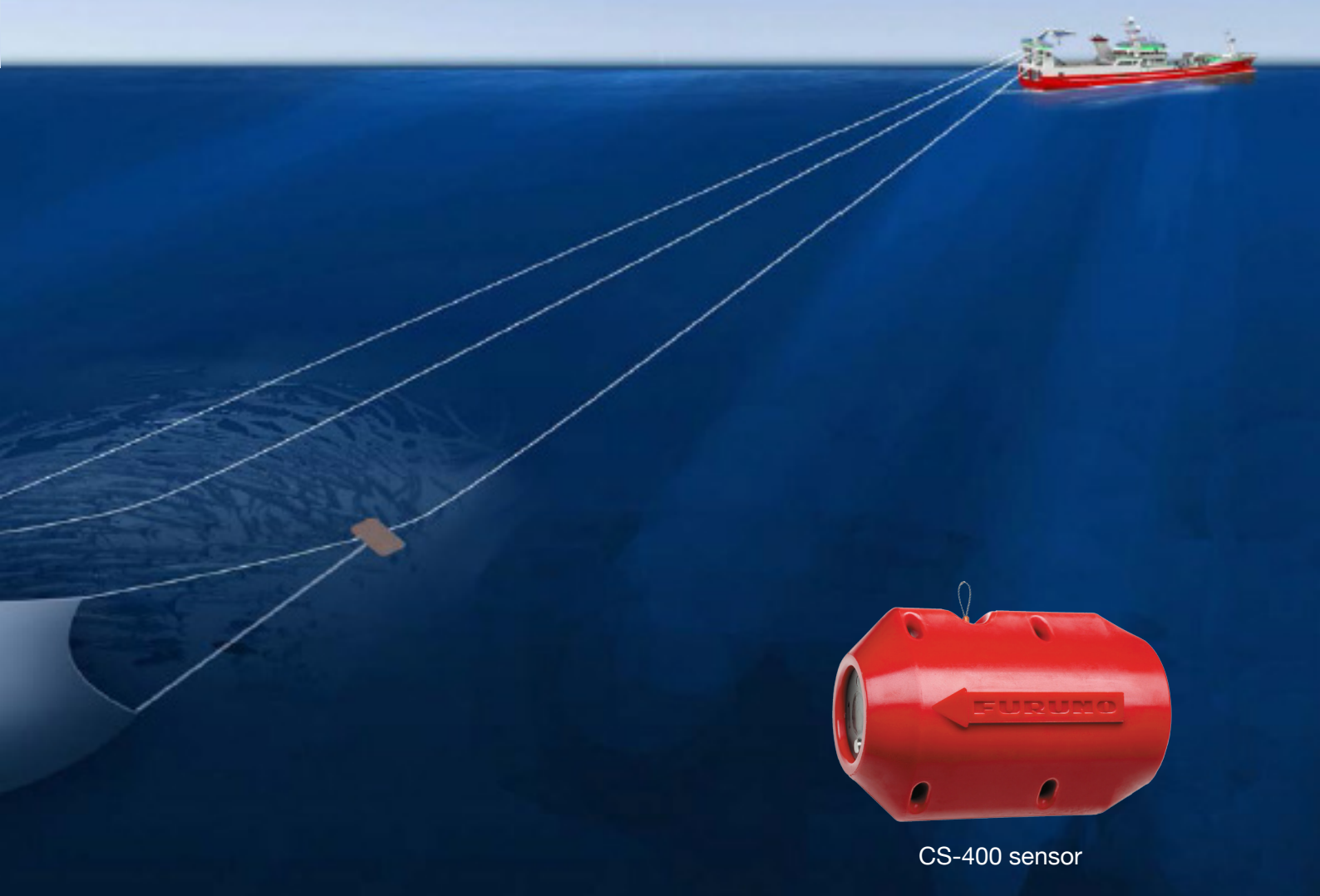
With up to 4 pcs. of catch sensors, CS-400 can be connected to the trawl sonar to get complete overview of the current catch. With catch sensors you can follow the filling rate into the trawl and it can be hauled up in at the right time. The signals from the CS-400 are transmitted wirelessly to the trawl sonar. CS-400 is also compatible with other 3rd part systems in the market.



### Features:

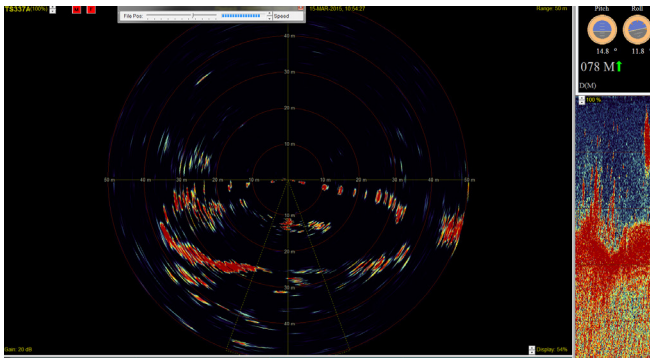
- Two screen option of vertical scanning and echo window **NEW!**
- Own zoom window of echo images **NEW!**
- NMEA output of headrope and footrope **NEW!**
- Echo Sounder presentation with higher ping rate. **NEW!**
- Graphical presentation of net depth and temperature
- Full monitoring of net opening and fish echoes for each transmission
- 240 beams scan 360 degrees in vertical direction for each transmission
- Vertical transmission update every 0,8 sek.
- Adjustable beam width of the echo sounder
- Depth/temp and net behaviour (pitch and roll)
- Trawlheading presentation (Underwater Unit)
- Monitoring up to 4 catch sensors and the filling rate
- All operations done from menu on Display
- No moving mechanical parts in Underwater Unit
- Robust design and high reliability



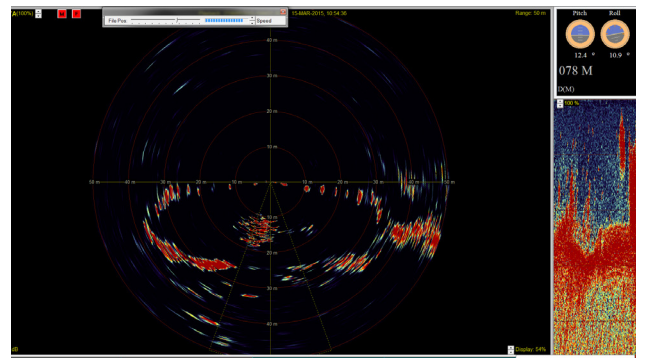


CS-400 sensor

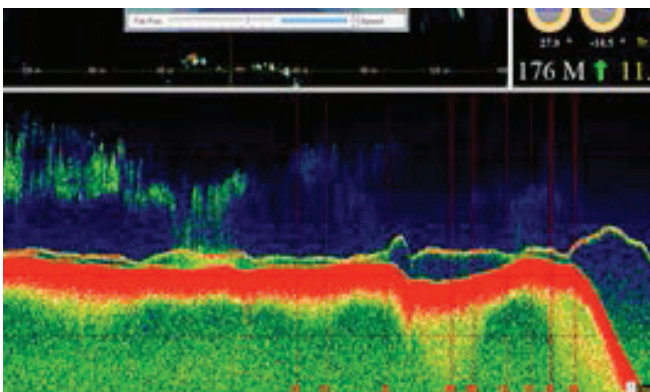
## Display Unit



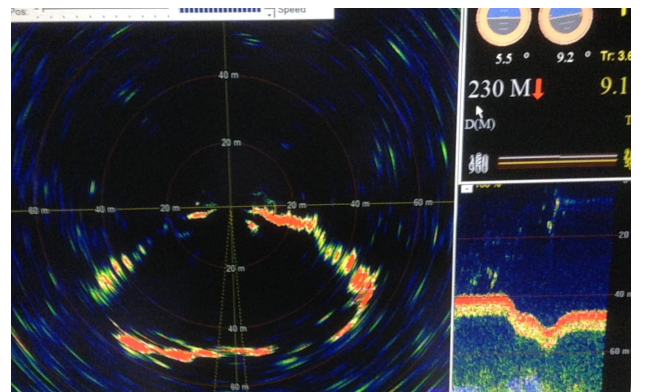
Fish coming in...



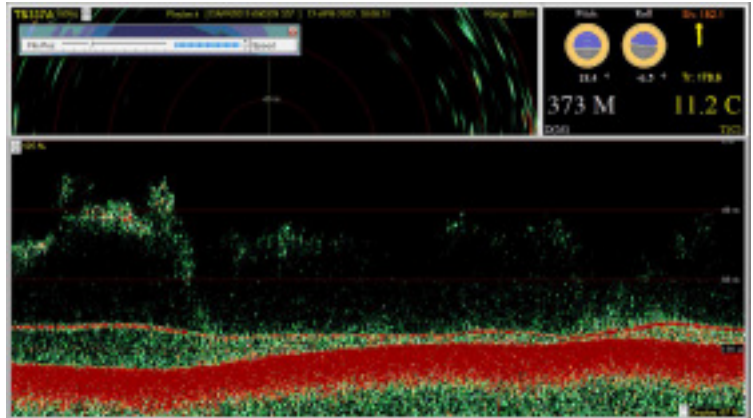
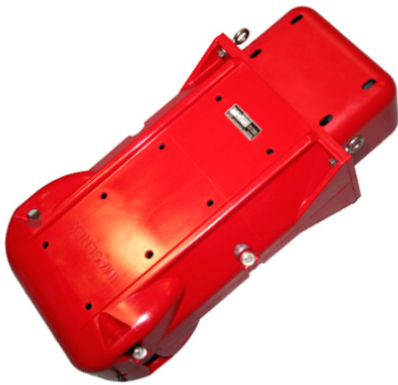
Fish targets on vertical scanning and echo window



Maximum echo sounder image



Clear view of the foot rope



240 beams scan 360 degrees in vertical direction for each transmission. New transmission update every 0,8 sec.

Clear view of the trawl foot rope. With update every 0.8 sec. you will have good control of the foot rope close to the sea bed.

## Specifications:

### GENERAL

**Display** 1280 x 1024  
**Display Mode** Beam Test or 360° image  
**Presentation Color of echogram**  
 Full color (2 types of contrast selectable for day or night time operation), Green, Grey (normal/reverse)

### UNDERWATER UNIT

**Operating Depth** 2,000 m  
**Vertical Scanning Sonar**  
**Display mode** 360°. Full picture scanning every 0,8 sec.  
**Echo Sounder**  
**Frequency** 120 kHz  
**Ranges** 10, 20, 30, 40, 50, 60, 80, 100, 150, 200, 250 m.

**Temperature Sensor**  
**Measurement Range**  
 - 5°C to +35°C

**Dept Sensor**  
**Measurement Range**  
 0 to 2,000 m

**Pitch/Roll Sensor** +/-60°

### CATCH SENSOR CS-400

**Operating Depth** 2,000 m  
**Frequency** channel 1: 69.75/70.25 kHz,  
 channel 2: 72.25/72.75 kHz  
 channel 3: 74.75/75.25 kHz  
 channel 4: 77.25/77.75 kHz  
**Power Supply** 3 Alkaline batteries  
**Operating Time** 1,000 h

### POWER SUPPLY

115/230 VAC

### EQUIPMENT LIST

**Standard:** 1 Unit Underwater, 1 Surface Processor Unit, Installation Material and Standard Spare Parts  
**Option:** Catch Sensor CS-400

### Third Wire System

**Winch system** Shipyard supply  
**Cable** Armored coax cable  
**Loop Resistance** 100 ohm  
**Attenuation** 20 dB, 100 kHz  
**Length** 3,000 m

